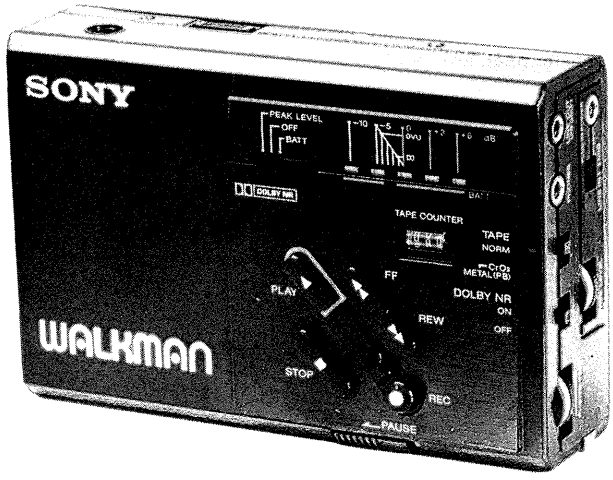
TC-D3/WM-D3

SERVICE MANUAL

Refer to MDR-W20L/B Service Manual issued previously for information of headphones supplied with this set.



● **Photo: WM-D3**

TC-D3:

FRANCE Model

UK Model

WM-D3:

US Model

Canadian Model

AEP Model

ET Model

SPECIFICATIONS

Recording system 4-track, 2-channel stereo

Wow and flutter ±0.13% (DIN)
0.08% WRMS (NAB)

Fast winding time Approx. 2 min. with Sony Cassette HF-60

Frequency response (DOLBY NR OFF)
60–15,000 Hz ±3 dB with TYPE I (Sony HF-S) or TYPE II (Sony UCX-S) cassette
40-16,000 Hz with TYPE I (Sony HF-S) or TYPE II (Sony UCX-S) cassette

S/N (NAB, at peak level)

Type of Cassette / Dolby NR	TYPE I (Sony HF-S)	TYPE II (Sony UCX-S)
ON (B-type)	62 dB	64 dB
OFF	55 dB	57 dB

Total harmonic distorsion
1.0% with Sony UCX-S cassette

Input Line input/microphone (stereo minijack) × 1
(the same jack)
microphone sensitivity 0.3 mV (–68 dB), plug in power type, for low impedance microphone
Line input sensitivity 77.5mV (47kilohms)

Output Line output jack (stereo minijack) × 1
output level 0.25 V (less than 4.7 kilohms)
headphones (stereo minijack) × 1
load impedance 8–300 ohms

Power output (DC) 20 mW + 20 mW (at 10% harmonic distortion, load impedance 32 ohms)

Battery life (hours)

Batteries	Recording		Tape playback (power output 0.5 mW + 0.5 mW)
	TYPE I (Normal)	TYPE II (CrO_2)	
Sony SUM-3 (NS) New Super batteries	Approx. 2.5	Approx. 2	Approx. 3.5
Sony Eveready AM3 alkaline batteries	Approx. 5	Approx. 4	Approx. 7

Tape Transport Mechanism Type	MT-WM-D3-24

Power requirements 3 V dc
Two IEC designation R6 batteries (size AA)
DC IN 3 V jack can be used with the following:
Sony AC-D2 ac power adaptor (optional)
for use on 120V ac, 60 Hz (available in US, Canadian model)
for use on 240V ac, 50 Hz (available in UK, model)
for use on 220V ac, 50 Hz (available in AEP, FRANCE model)
for use on 100V ac, 120V ac or 220V ac, 50/60 Hz* (available in ET model)
* There are three types: one is for 100V ac, one is for 120V ac and one is for 220V ac,
Sony DCC-70 car battery cord (optional)
for use with 12 V car battery

Dimensions Approx. 124.2 × 34.4 × 82.3 mm (w/h/d)
(5 × 1 3/8 × 3 1/4 inches)
not incl. projecting parts and controls
Approx. 125.4 × 37.3 × 82.3 mm (w/h/d)
(5 × 1 1/2 × 3 1/4 inches)
incl. projecting parts and controls

Weight Approx. 370 g (13.1 oz)
incl. batteries, not incl. other accessories

Supplied accessories Stereo headphones (open-air type) (1)
Electret condenser stereo microphone (1)
Plug adaptor (1)
Connecting cord (1)
Carrying case and carrying strap (1 set)

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

STEREO CASSETTE-CORDER

SONY®

FEATURES

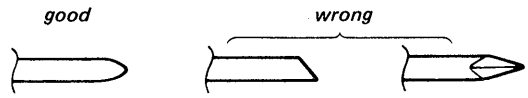
- Dolby* B-type system reduces tape hiss noise.
- Disc drive capstan servo system assures stable tape transport, reducing wow and flutter.
- Tape selector offers two positions.
- 5-LED peak/battery indicator shows both the peak level and the battery strength.
- Plug-in power type microphone jack can supply power to the supplied microphone.
- Amorphous head for recording/playback provides a wider dynamic range.
- Stereo minijacks can easily be connected to audio components.

SERVICING NOTES

• Flexible Circuit Board Repairing

1. Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
   You can maintain the temperature of the soldering iron around 270°C by using the thermal controller.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

Tip of soldering iron



• **Replacing chip components**

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

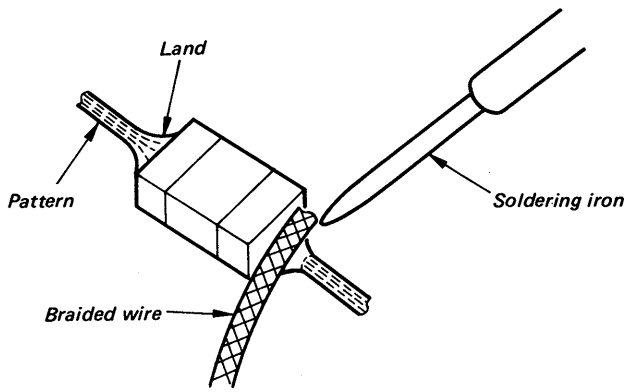
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

(1) Removing solder at electrode

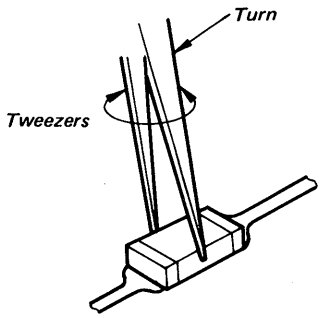
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

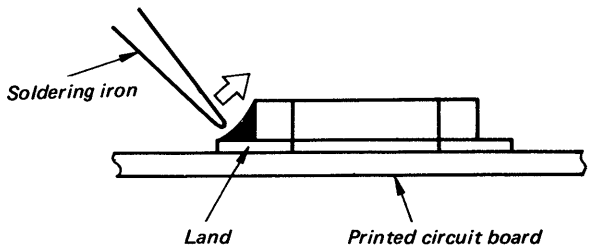
The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.

(2) Speedy soldering

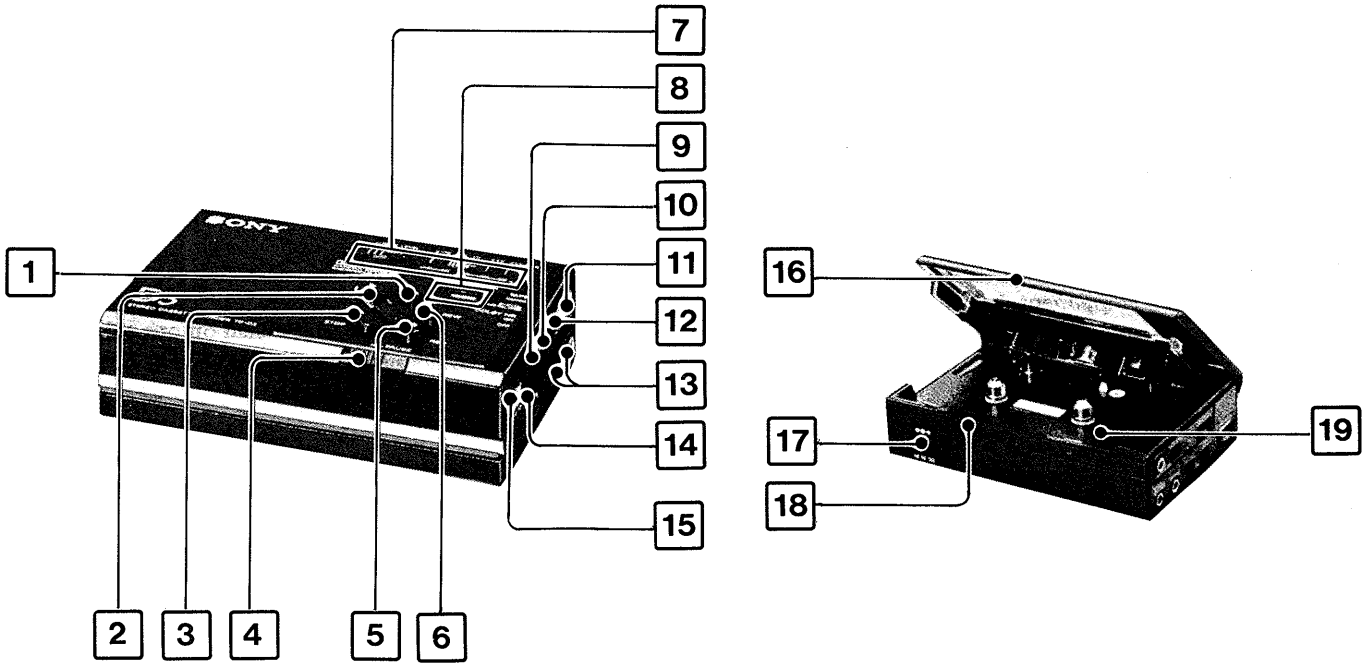
Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

PARTS IDENTIFICATION



1 **◀◀ FF (fast forward) button**

2 **◀ PLAY (playback) button**

3 **■ STOP button**

4 **PAUSE knob**
Slide it in the direction of the arrow, and the tape stops momentarily. To restart, slide it back to the original position.

5 **● REC (record) button**

6 **▶▶ REW (rewind) button**

7 **Peak level/battery meter and indication selector**
PEAK LEVEL: shows the recording level.
BATT: shows the battery condition
OFF: no indication

8 **Tape counter and reset button**
Use the counter to index the tape contents. Push the reset button to set the counter to 000.

9 **DOLBY NR selector**

10 **TAPE selector**
NORM: TYPE I (normal) tape
CrO_2/METAL (PB) (playback): When playing back and recording with TYPE II (CrO_2) tape, or when playing back with TYPE IV (metal) tape.

11 **LINE OUT (PB ONLY) (playback only) jack**

12 **PHONES (headphones) jack**

13 **LINE IN/MIC (line input/microphone) jack and selector**

14 **REC LEVEL (recording level) control**

15 **PHONE VOL (headphones volume) control**

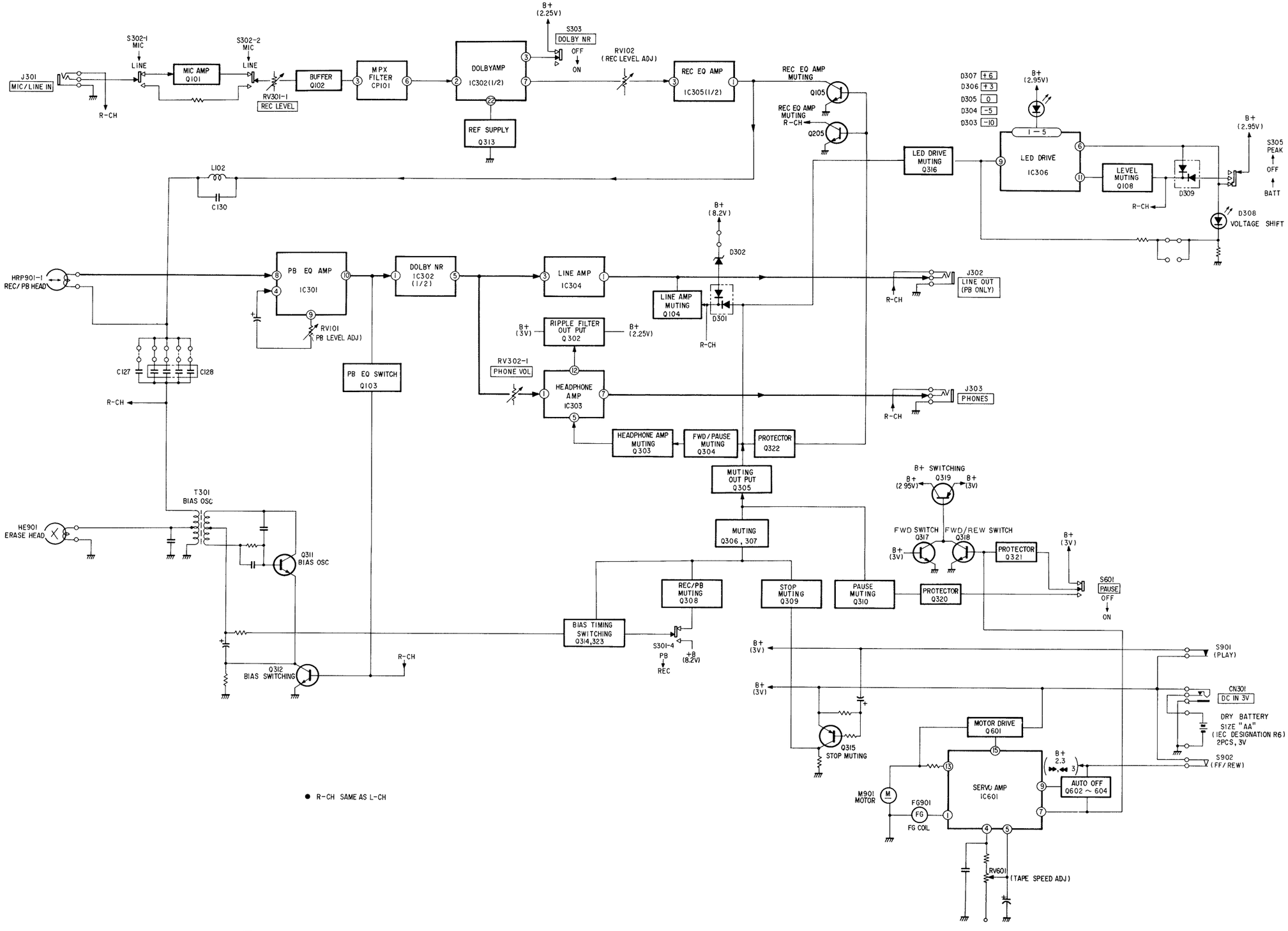
16 **Cassette holder**

17 **DC IN 3 V (external power input) jack**
Connect the ac power adaptor or car battery cord.

18 **OPEN catch**

19 **Battery compartment**

SECTION 1
BLOCK DIAGRAM

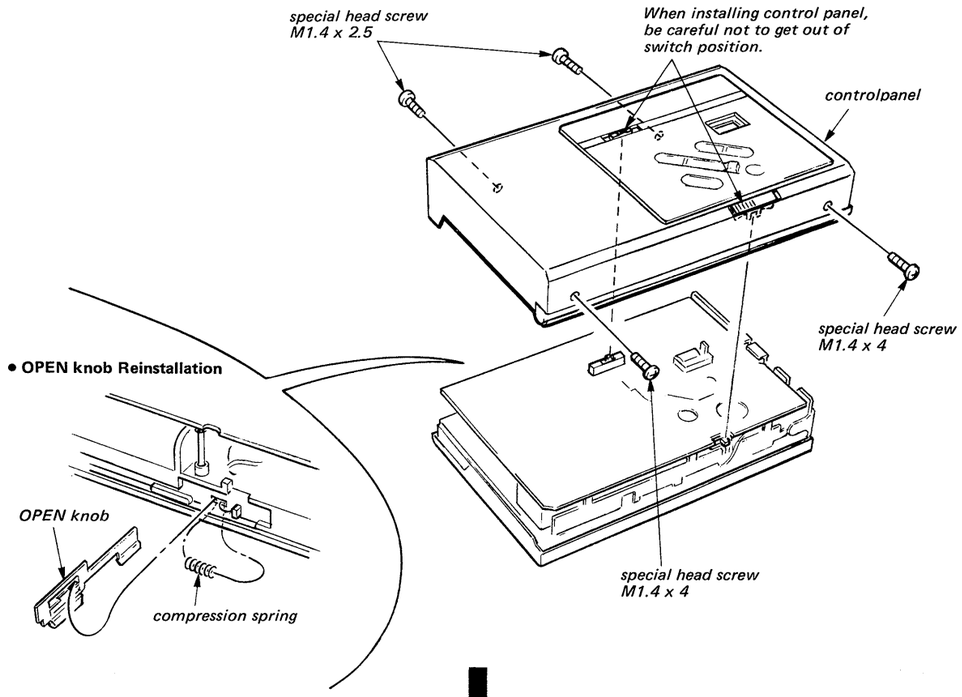


● R-CH SAME AS L-CH

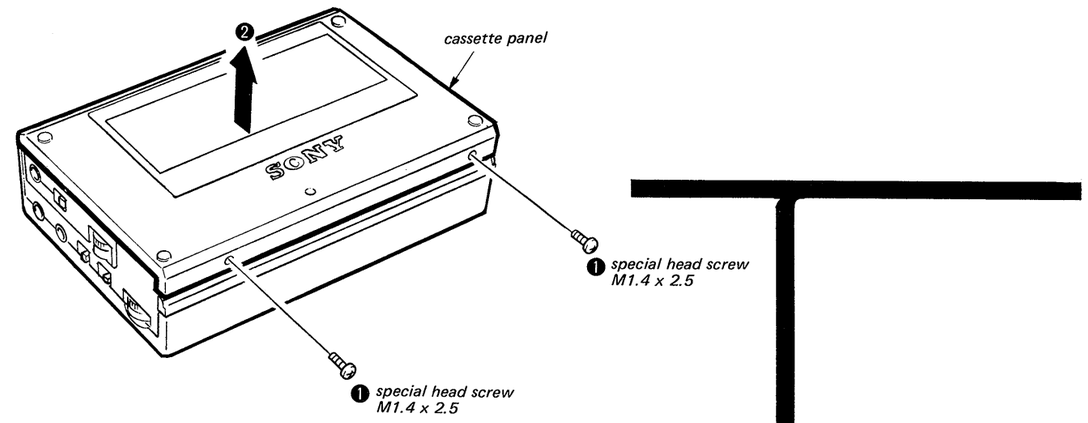
SECTION 2
DISASSEMBLY

• Follow the disassembly procedure in order given.

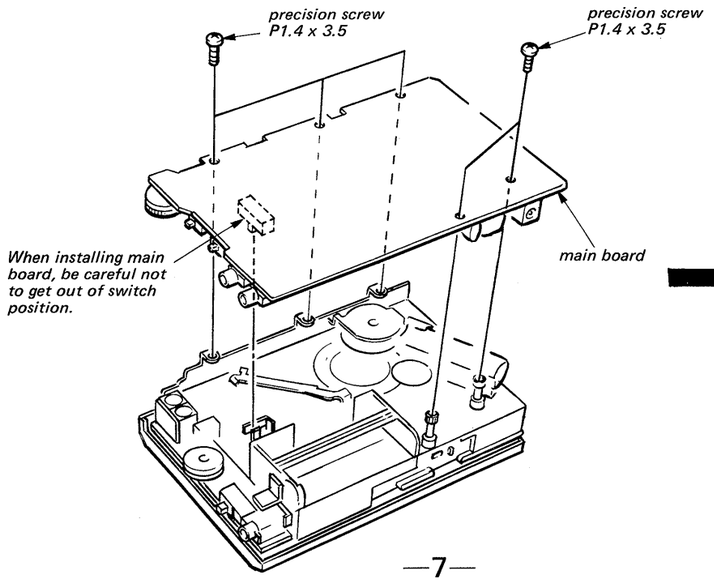
CONTROL PANEL REMOVAL



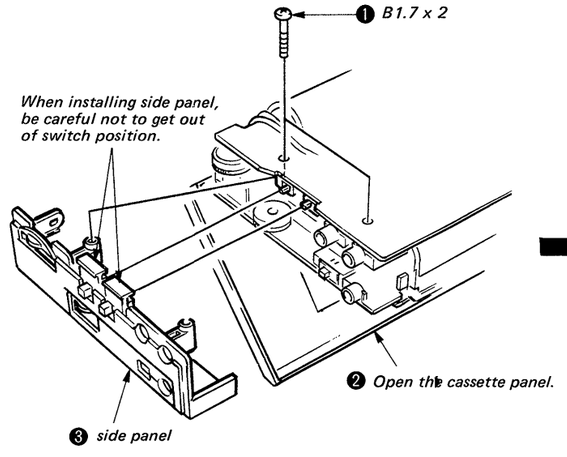
CASSETTE PANEL REMOVAL



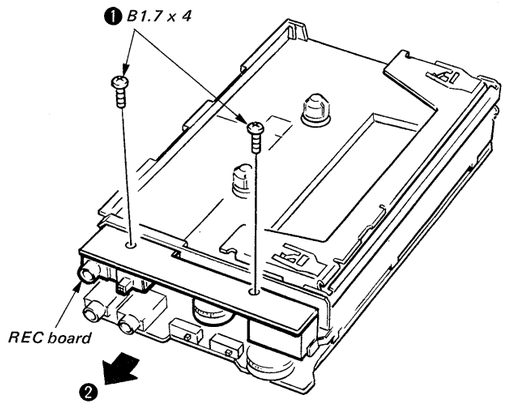
MAIN BOARD REMOVAL


precision screw
P1.4 x 3.5
precision screw
P1.4 x 3.5
When installing main board, be careful not to get out of switch position.
main board

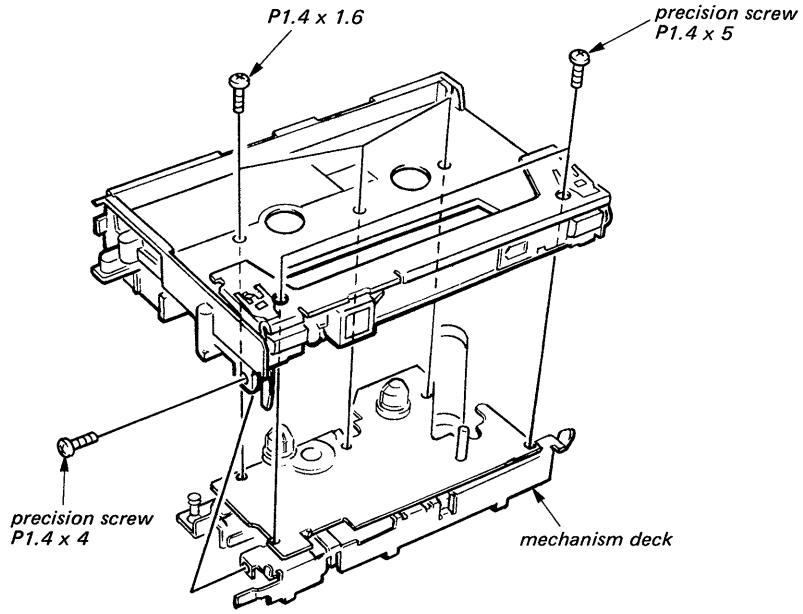
SIDE PANEL



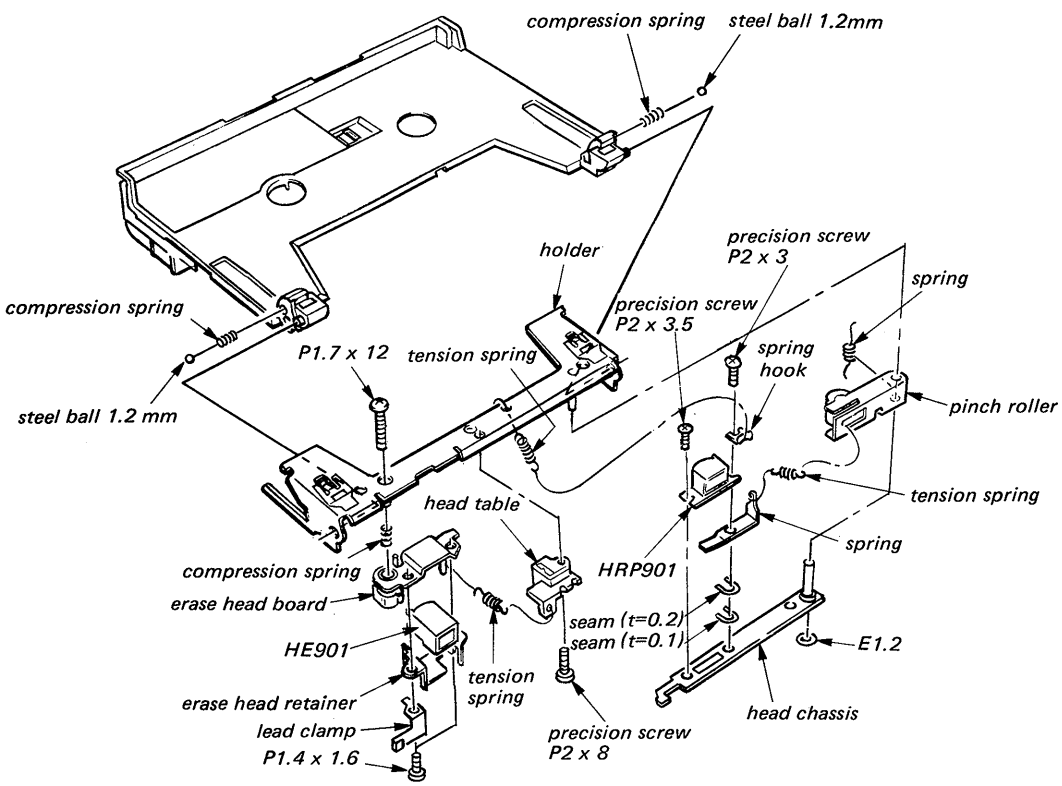
REC BOARD REMOVAL



MECHANISM DECK REMOVAL



REC/PB HEAD (HRP901), ERASE HEAD (HE901), PINCH ROLLER REMOVAL



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS AND MEASUREMENT

PRECAUTION

1. Clean the following parts with a danatured-alcohol-moistened swab:
   record/play back head — pinch roller
   erase head — rubber belts
   capstan
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Perform with 2.5 V DC power

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	22 – 46 g·cm (0.30 – 0.63 oz·inch)	CQ-102C
Fast Forward and Rewind	More than 65 g·cm (More than 0.89 oz·inch)	CQ-201B
Back Tension	1 – 3 g·cm (0.014 – 0.041 oz·inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	100 – 150 g (3,53 – 5.29 oz)

Pinch Roller Pressure Measurement

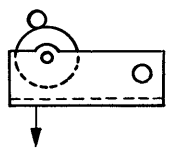
Procedure:

– playback mode –

1. Pull the spring scale in the direction of the arrow.
2. Slowly return the pinch roller and read the spring scale just when the pinch roller starts to rotate.

Specifications:

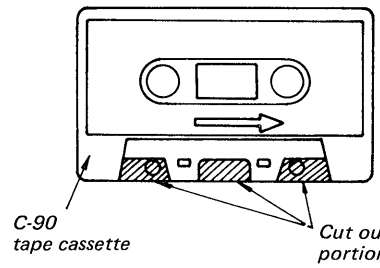
150 ± 20g



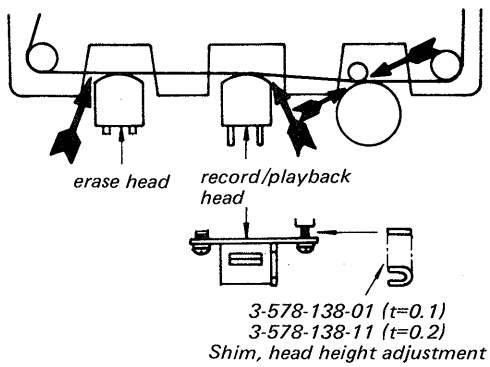
Head Height Adjustment

Procedure:

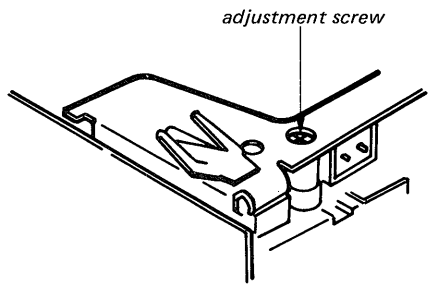
1. Prepare an adjustment cassette as shown below.



2. In record mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.



3. If necessary, adjust the height of the erase head by turning the adjustment screw.



4. Apply locking compound on adjustment screw.

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE switches according to the tape as follows.

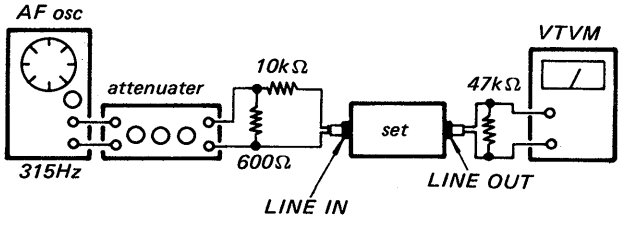
Tape	TAPE SELECT Switch
CS-121	NORMAL
CS-221	CrO_2

- Switches and controls should be set as follows unless otherwise specified.

  DOLBY NR . . . . . OFF
  TAPE . . . . . NORM

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

— Record Mode —



Standard Input Level

	LINE IN	MIC IN
source impedance	10kΩ	300Ω
input level	0.25V (–10dB)	0.775mV (–60dB)

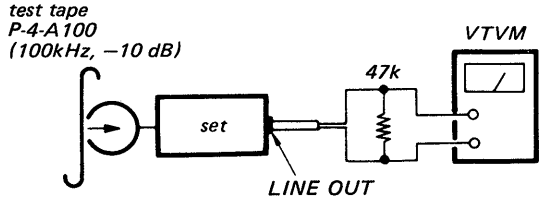
Standard Output Level

	LINE OUT
load impedance	47kΩ
output level	0.44V (–5dB)

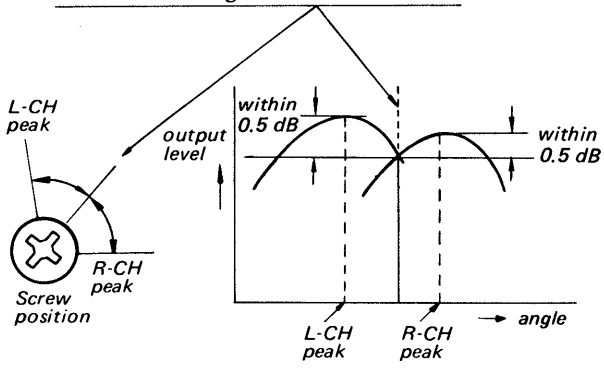
Playback Head Azimuth Adjustment

Procedure:

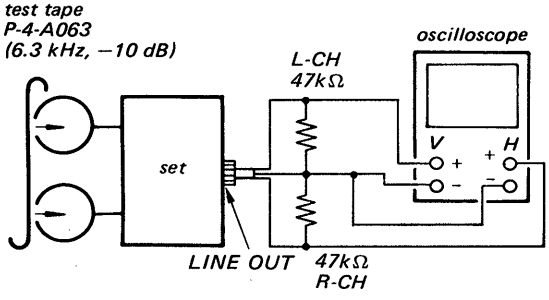
1. Mode: playback

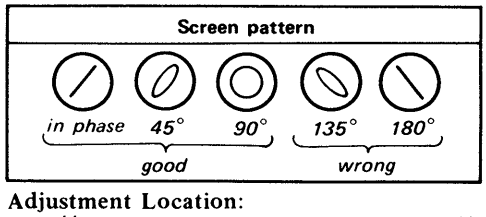


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

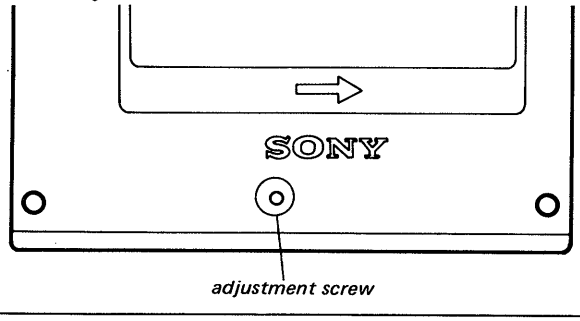


3. Phase Check
   Mode: playback





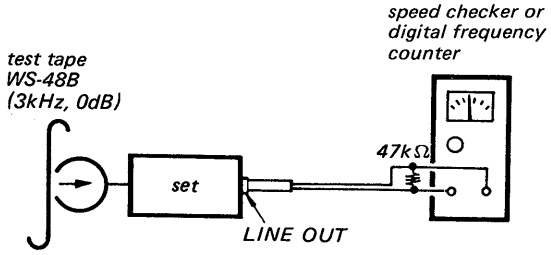
Adjustment Location:



Tape Speed Adjustment

Setting:
VOLUME knob: center click

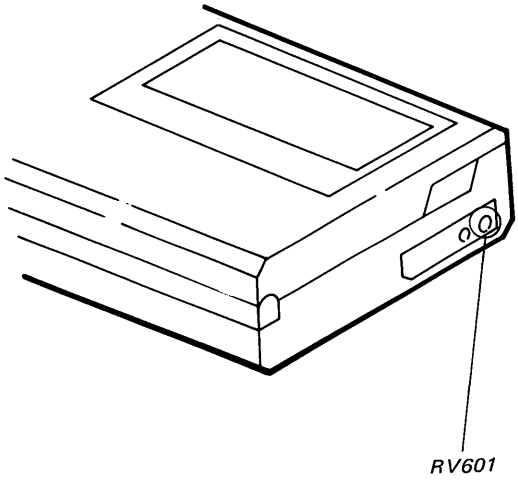
Procedure:
Mode: playback



Specifications:

Speed checker	Digital frequency counter
± 2 %	2,940 – 3,060 Hz

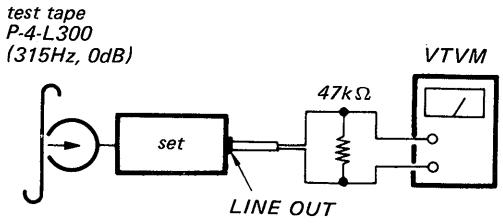
Adjustment Location:



Playback Level Adjustment

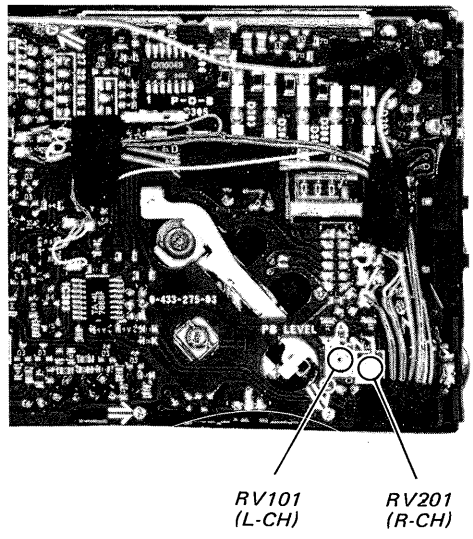
Setting:
TAPE select switch : NORM
DOLBY NR switch : OFF

Procedure:
Mode: playback



Adjust RV101 (L-CH) and RV201 (R-CH) for 245 – 256 mV (−10 to −9.6 dB) reading on VTVM.

Adjustment Location: main board



Record Bias Adjustment

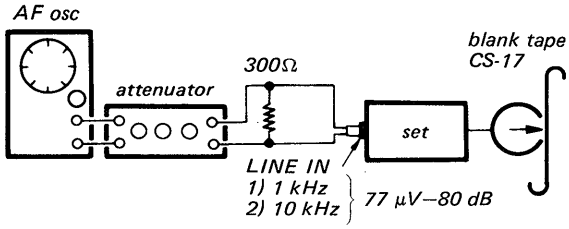
Setting:

- LINE IN/MIC switch: MIC
- REC LEVEL: STANDARD RECORD

(See page 11.)

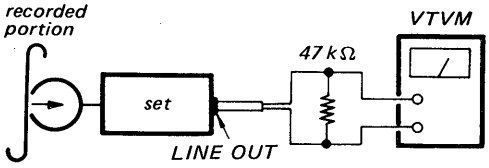
Procedure:

1. Mode: record



Record 315 Hz and 10 kHz signals.

2. Mode: playback



3. Play back 1 kHz, 10 kHz and adjust by changing the pattern to obtain the specified LINE OUT level. (When the specified value cannot be obtained by bridging only one pattern, then bridge another pattern.)

   When the 10 kHz output is high
   increase the capacitance

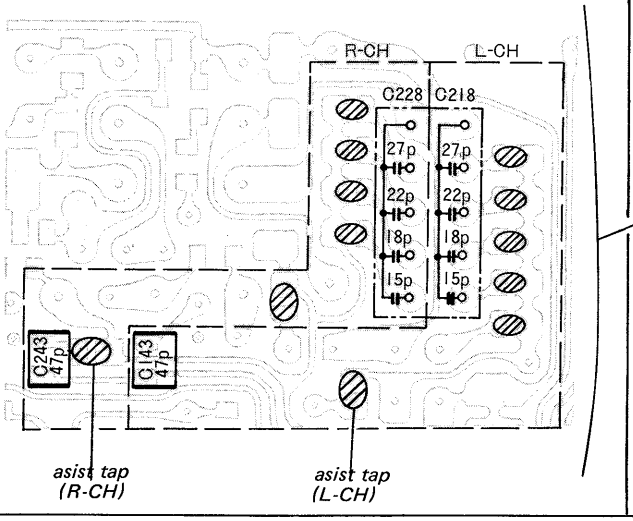
   When the 10 kHz output is low
   decrease the capacitance

Specification:

Within 10 kHz level difference ± 1,0 dB relative to 1 kHz.

Adjustment Location:

– main board – (Conductor Side)



Record Level Adjustment

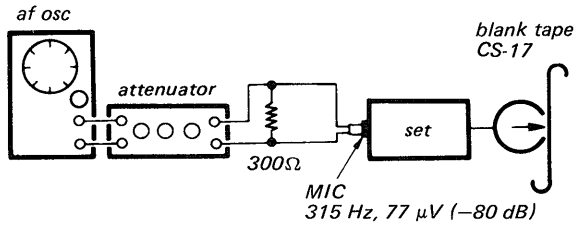
Setting:

- LINE IN/MIC switch: MIC
- REC LEVEL: STANDARD RECORD

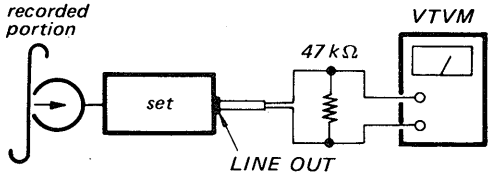
(See page 11.)

Procedure:

1. Mode: record



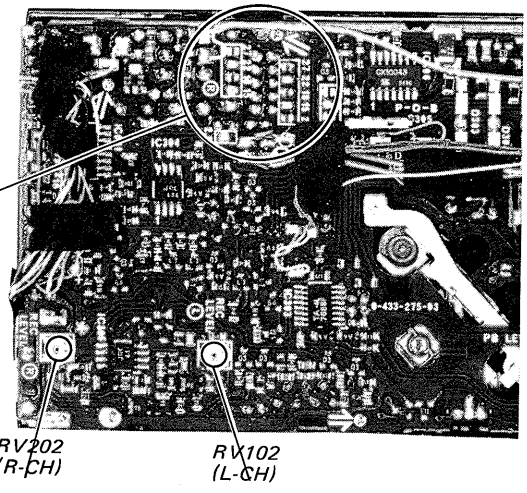
2. Set TAPE selecter to NORMAL.
3. Record –80 dB (0.77 μV), 315 Hz signal in a blank tape (C3-17).
4. Play back the recorded tape in step 2.
5. Mode: playback



6. Repeat steps 2 and 3 and adjust RV102 (L-CH), RV202 (R-CH) so that the LINE OUT level is –10.3 dB.
7. Set TAPE select switch to CrO_2.
8. Repeat steps 1 to 4 also for CS-25 and obtain the specified value.

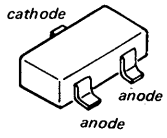
Tape	Specification	TAPE SELECT
CS-10	–10.3 dB ± 0.5 dB	NORMAL/CrO_2
CS-25	–10.3 dB ± 2 dB	NORMAL/CrO_2

Adjustment Location:



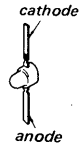
- **Semiconductor lead layouts**

1S2837

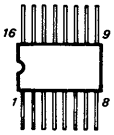


RD5.6M-B2

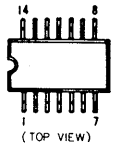
GL-1PR1



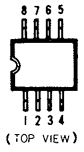
CX20084
BA3304F
TA7688F



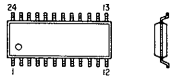
CX10043



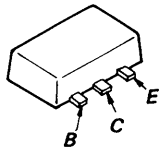
NJM4558M



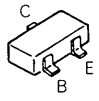
CXA1058M



2SB798
2SD999



2SA812
2SC1623
2SD596
DTA114YK
DTC114YK
DTC143TK



Ref No.	Location	Ref No.	Location
D301	F-18	Q205	H-16
D302	F-18	Q206	H-19
D303	D-22	Q207	H-18
D304	D-22	Q208	B-23
D305	D-23	Q301	E-19
D306	D-24	Q302	G-18
D307	D-24	Q303	G-18
D308	D-21	Q304	G-18
D309	D-21	Q305	F-17
		Q306	F-17
IC301	H-3	Q307	F-17
IC302	F-8	Q308	G-16
IC303	G-19	Q309	F-16
IC304	E-17	Q310	F-17
IC305	H-16	Q311	C-16
IC306	C-21	Q312	B-17
IC601	D-15	Q313	E-24
		Q314	F-22
Q101	D-28	Q315	F-16
Q102	I-27	Q316	C-19
Q103	H-8	Q317	I-21
Q104	E-18	Q318	I-21
Q105	H-16	Q319	D-20
Q106	H-20	Q320	G-17
Q107	H-18	Q321	I-6
Q108	B-23	Q322	G-17
Q201	D-30	Q323	F-22
Q202	J-27	Q601	E-14
Q203	H-8	Q602	C-15
Q204	E-18	Q603	C-15
		Q604	C-14

SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM

• Refer to page 14 for semiconductor lead layouts and location.

TC-D3/WM-D3 TC-D3/WM-D3

• [MAIN BOARD] (CONDUCTOR SIDE) : Component-side Pattern.
• [MAIN BOARD] (COMPONENT SIDE) : Conductor-side Pattern.

Note:
• Color code of sleeving over the end of the jacket.
WHT
RED
(RED/WHT)

• ●— : parts extracted from the conductor side.
• ■ : part mounted on the conductor side.
• ⊗ : Through hole.

【MAIN BOARD】 (COMPONENT SIDE)

【FLEXIBLE BOARD】

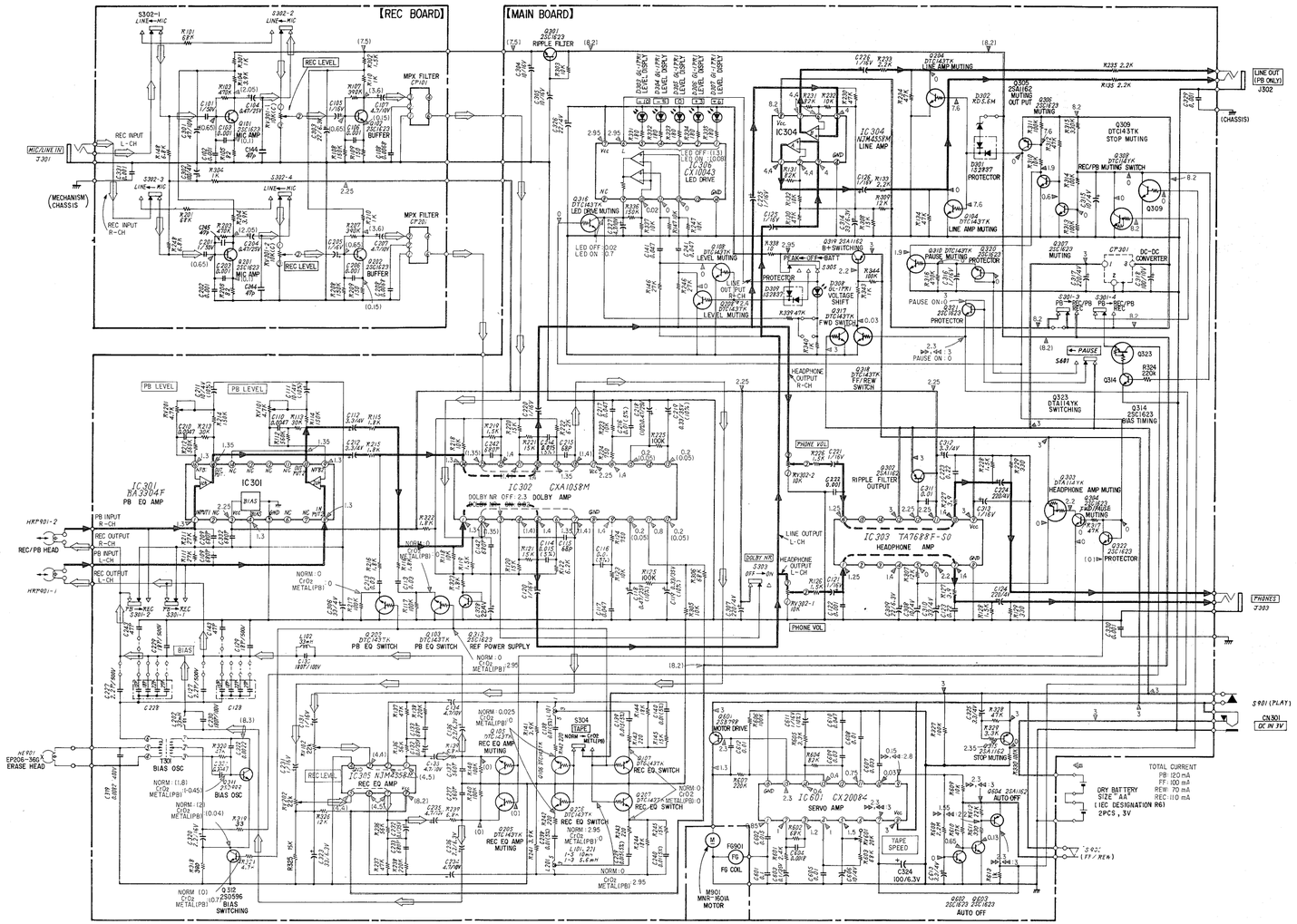
【MAIN BOARD】 (CONDUCTOR SIDE)

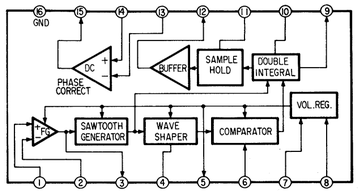
【REC I BOARD】 (COMPONENT SIDE)

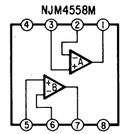
【REC I BOARD】 (CONDUCTOR SIDE)

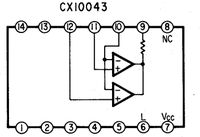
【REC 2 BOARD】

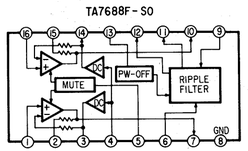
4-2. SCHEMATIC DIAGRAM

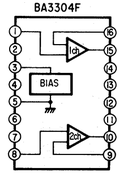


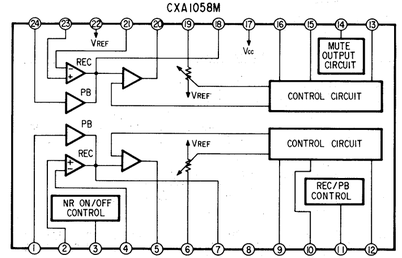












Note:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Switch

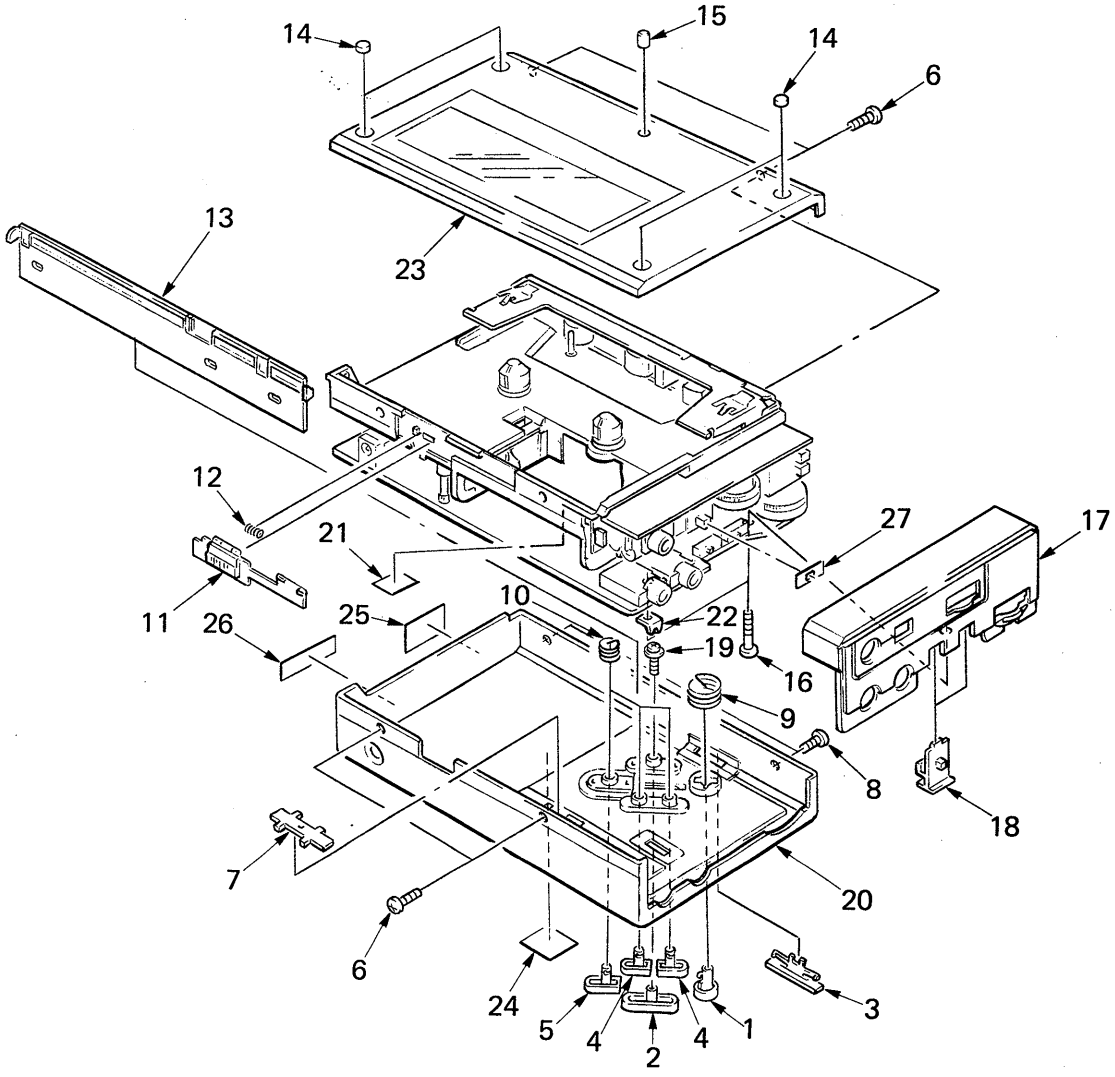
Ref. No.	Switch	Position
S301	REC/PB	PB
S302	LINE IN/MIC	MIC
S303	DOLBY NR	OFF
S304	TAPE	NORM
S305	PEAK/OFF/BATT	BATT
S601	PAUSE	START
S901	PLAY	PLAY
S902	FF/REW	OFF

- ▭ : B+ bus.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is 3 V and fed with regulated dc power supply from battery terminal.
  Voltages are dc with respect to ground in PLAY mode.
  Voltage variations may be noted due to normal production tolerances.
- ( ) : REC ◀◀ : REW
  ▶▶ : FF
- ▬▶ : playback input signal path.
  ▭▶ : record output signal path.

SECTION 5
EXPLODED VIEWS AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

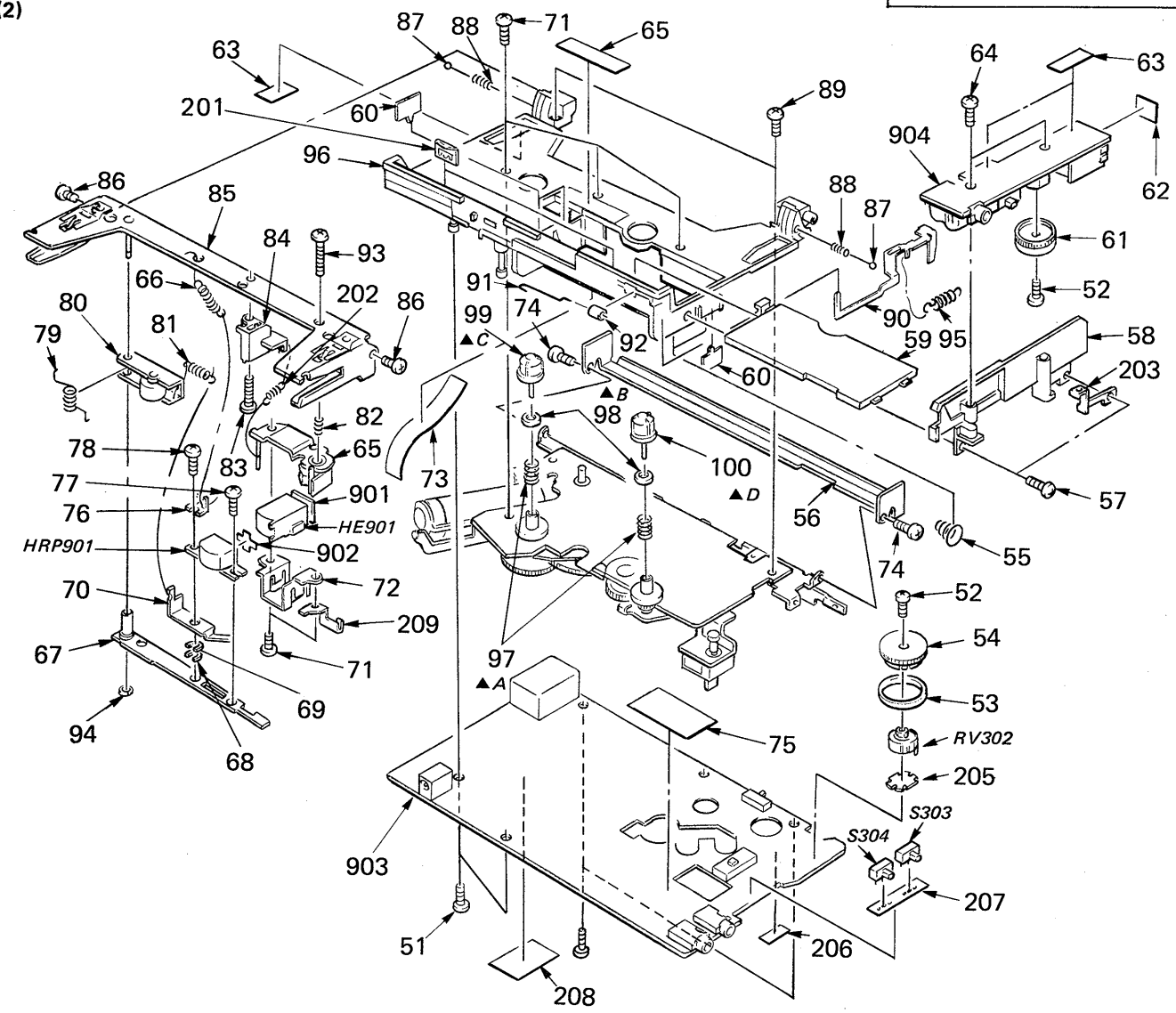
(1)



No.	Part No.	Description	Remarks
1	3-331-618-01	BUTTON, REC	
2	3-331-617-01	BUTTON, STOP	
3	3-331-619-01	KNOB, PAUSE	
4	A-3051-039-A	BUTTON BLOCK ASSY, FR	
5	A-3051-040-A	BUTTON BLOCK ASSY, PLAY	
6	3-703-816-42	SCREW (M1.4X2.5), SPECIAL HEAD	
7	3-331-621-01	KNOB, METER SELECTION	
8	3-703-816-12	SCREW (M1.4X4.0), SPECIAL HEAD	
9	3-331-608-01	SPRING, COMPRESSION	
10	3-331-609-01	SPRING, COMPRESSION	
11	3-331-626-01	KNOB, OPEN	
12	3-310-947-00	SPRING, COMPRESSION	
13	3-331-613-01	ORNAMENT, FRONT	
14	3-331-603-01	FOOT	
15	3-578-232-21	ORNAMENT, ADJUSTMENT HOLE	

No.	Part No.	Description	Remarks
16	3-318-203-41	SCREW (B1.7X12), TAPPING	
17	3-331-623-01	PANEL, SIDE	
18	3-331-612-01	KNOB, SELECT	
19	3-318-201-01	SCREW (B) (1.4X3), TAPPING	
20	X-3331-614-1	(US, Canadian, AEP, ET)...PANEL ASSY, CONTROL	
	X-3331-617-1	(FRANCE, UK).....PANEL ASSY, CONTROL	
21	3-831-441-XX	SPACER	
22	*3-331-679-01	PLATE (B), GROUND	
23	X-3331-615-1	PANEL ASSY, CASSETTE	
24	3-703-710-01	STICKER, SONY SYMBOL (12)	
25	3-318-522-11	LABEL, DOLBY	
26	3-331-660-01	(US, Canadian, AEP, ET)...LABEL, MODEL NUMBER	
	3-331-693-01	(FRANCE, UK).....LABEL, MODEL NUMBER	
27	9-911-863-XX	PLATE, BLIND	

(2)

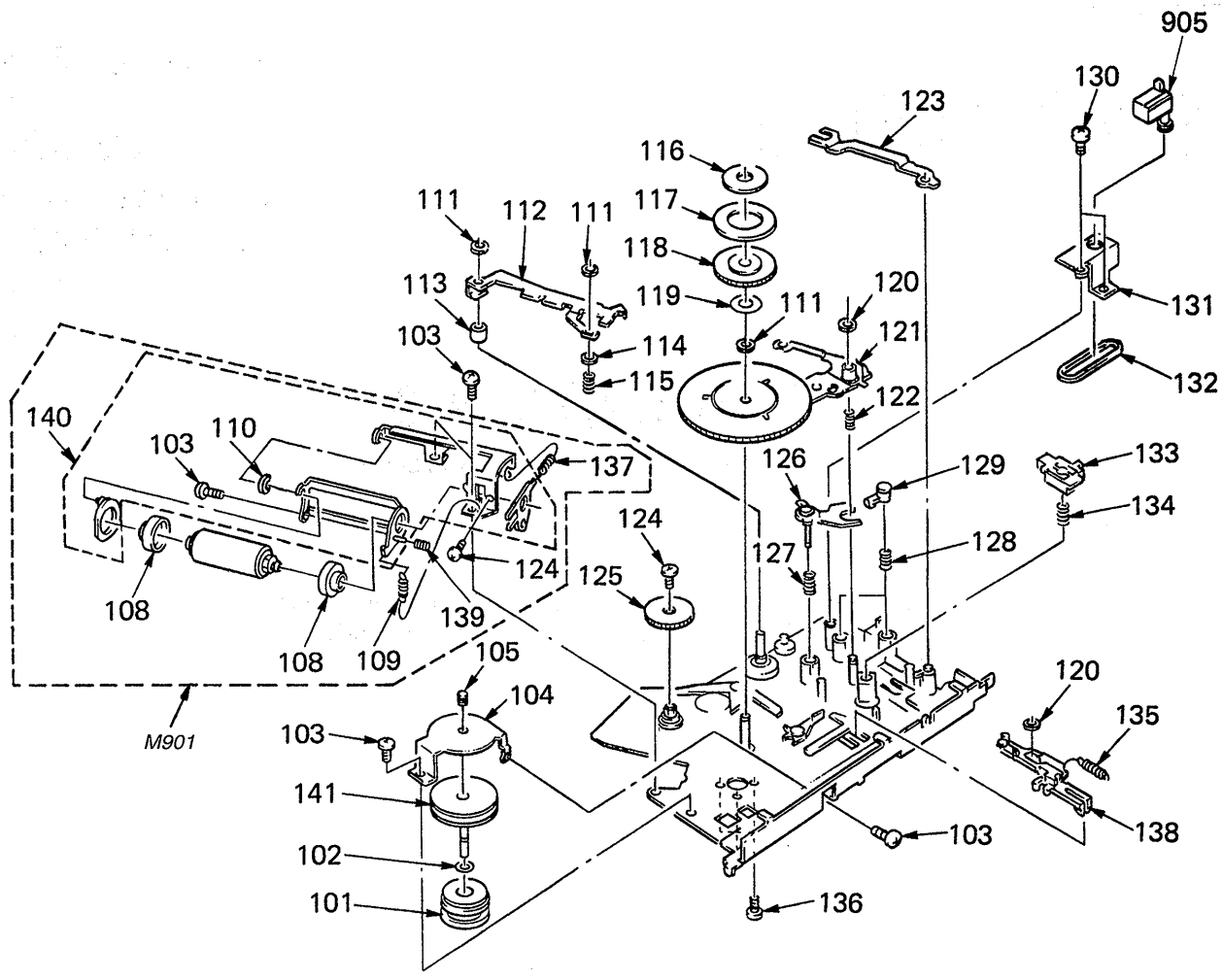


No.	Part No.	Description	Remarks
51	7-627-850-57	SCREW, PRECISION +P 1.4X3.5	
52	7-627-551-77	SCREW, PRECISION +P 1.4X4 TYPE1	
53	3-331-602-01	ORNAMENT, KNOB, VOL	
54	3-331-611-01	KNOB, VOL	
55	3-578-236-00	SPRING	
56	3-331-614-01	RETAINER, CASSETTE PANEL	
57	7-627-850-68	SCREW, PRECISION +P 1.4X4	
58	*3-331-624-01	CHASSIS (B)	
59	3-578-115-00	LID, BATTERY CASE	
60	3-578-109-00	CONTACT	
61	X-3331-601-1	KNOB ASSY (REC), VOLUME	
62	*3-572-862-00	SPACER	
63	3-831-441-11	CUSHION (B)	
64	3-318-203-61	SCREW (B1.7X4), TAPPING	
65	*X-3331-609-1	CHASSIS ASSY, ERASE HEAD	
66	3-545-588-00	SPRING, TENSION	
67	X-3331-603-1	CHASSIS ASSY, HEAD	
68	3-578-138-11	SEAM (t=0.1)	
69	3-578-138-01	SEAM (t=0.2)	
70	3-578-181-00	SPRING	
71	7-627-850-48	+P 1.4X1.6	
72	*3-331-647-01	RETAINER, ERASE HEAD	
73	9-911-816-01	CLOTH, DRAWER, BATTERY	
74	3-331-665-01	SCREW (M1,4), STEP	
75	3-331-664-01	PLATE, BLIND	
76	3-310-971-01	HOOK, SPRING	
77	7-627-554-17	SCREW, PRECISION +P 2X3.5	
78	7-627-553-37	SCREW, PRECISION +P 2X3	
79	3-578-146-00	SPRING	
80	X-3578-137-0	PINCH ROLLER ASSY	
81	3-578-220-00	SPRING, TENSION	
82	3-331-631-01	SPRING, COMPRESSION	
83	7-627-553-98	SCREW, PRECISION +P 2X8	
84	3-331-649-01	TABLE, HEAD	

No.	Part No.	Description	Remarks
85	*X-3331-611-1	HOLDER ASSY	
86	7-627-551-28	SCREW, PRECISION +P 1.4X2.5	
87	7-671-112-01	STEEL, BALL	
88	3-578-127-00	SP RING, COMPRESSION	
89	7-627-851-27	SCREW, PRECISION +P 1.4X5	
90	3-305-430-00	LEVER, ERASING PROTECTION	
91	3-305-415-00	SPRING	
92	3-305-403-00	CLAW, ERASING PROTECTION	
93	3-331-659-01	SCREW (M1.7X12), O (P1)	
94	3-578-254-00	RING, RETAINING, E1.2	
95	3-305-523-00	SPRING, TENSION	
96	X-3331-613-1	CHASSIS ASSY	
97	3-578-123-00	SPRING, COMPRESSION	
98	3-310-958-00	WASHER	
99	X-3578-115-0	CLAW ASSY, REEL	
100	X-3578-126-0	CLAW ASSY, REEL	
201	3-578-141-00	SPRING	
202	3-331-658-01	SPRING, TENSION	
203	*3-331-680-01	PLATE (C), GROUND	
204	3-578-101-00	PLATE, ORNAMENTAL	
205	3-331-677-01	SPACER, VOL	
206	3-327-119-01	SHEET (A), INSULATING	
207	*3-331-675-01	SPACER	
208	3-327-119-01	SHEET (B), INSULATING	
209	*3-331-654-01	CLAMP, LEAD	
901	1-617-799-11	PC BOARD, ERASE HEAD	
902	1-617-800-11	PC BOARD, RECORD/PLAYBACK HEAD	
903	A-3060-030-A	MOUNTED PCB, MAIN	
904	A-3089-151-A	PC BOARD ASSY, REC	
HE901	8-825-724-70	ERASE HEAD EP201-36G	
HRP901	1-543-296-11	HEAD	
RV302	1-230-165-00	RES, VAR, CARBON 10K/10K	
S303	1-553-510-00	SWITCH, SLIDE	
S304	1-553-510-00	SWITCH, SLIDE	

REVISED

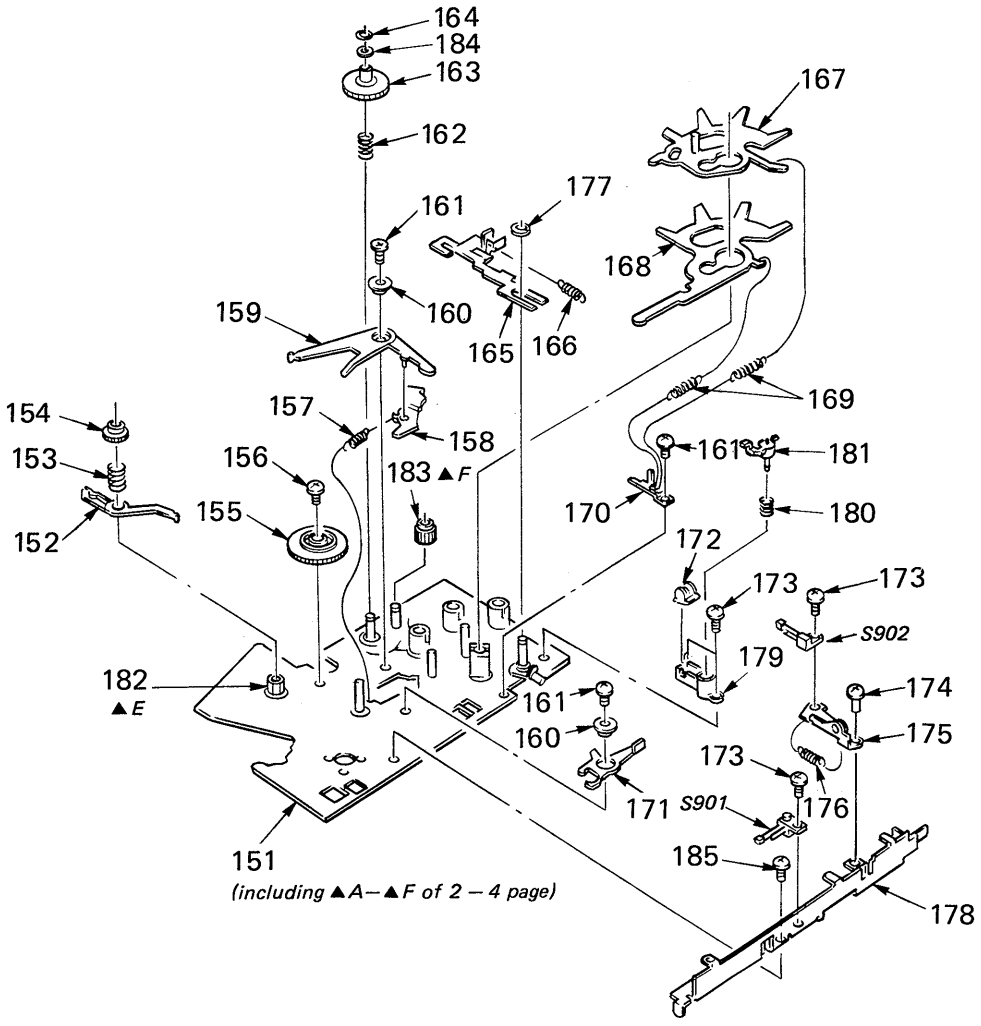
(3)



Ref. No.	Part No.	Description	Remark
101	X-3310-907-0	STATOR ASSY	
102	3-701-438-01	WASHER	
103	7-627-850-79	SCREW, PRECISION +P 1.4X1.8 TYPE3	
104	3-310-930-00	PLATE, THRUST	
105	3-547-625-00	SCREW, THRUST ADJUST	
108	3-310-939-00	RUBBER, VIBRATION PROOF	
109	3-310-948-00	SPRING, TENSION	
110	7-624-102-04	STOP RING 1.5, TYPE-E	
111	3-578-224-00	WASHER	
* 112	X-3331-618-1	ARM (A) ASSY, REC	
113	3-305-497-00	COLLAR, REC ARM	
114	3-701-436-11	WASHER, 1.6	
115	3-305-423-00	SPRING, COMPRESSION	
116	3-310-916-00	PLATE (B), HYSTERESIS	
117	3-310-920-00	PLATE (C), HYSTERESIS	
118	3-310-915-11	GEAR (B), DRIVING	
119	3-701-444-11	WASHER, 6	
120	3-578-224-11	WASHER	
121	X-3578-142-0	LEVER (A) ASSY, DRIVING	
122	3-578-199-00	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
* 123	3-305-425-00	ARM (B), REC	
124	7-627-851-17	SCREW, PRECISION +P 1.4X4.5	
125	3-310-914-00	GEAR, FWD	
126	X-3331-604-1	LEVER ASSY, FWD	
127	3-578-249-00	SPRING, COMPRESSION (FWD BUTTON)	
128	3-578-278-00	SPRING, COMPRESSION	
129	X-3331-605-1	LEVER ASSY, FR	
130	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
* 131	3-331-638-01	BRACKET, COUNTER	
132	3-561-645-00	BELT, C	
133	X-3331-606-1	LEVER ASSY, STOP	
134	3-578-121-00	SPRING, COMPRESSION	
135	3-570-589-00	SPRING, TENSION	
136	7-627-451-87	SCREW, PRECISION +K 1.4X2.2	
137	3-310-921-00	SPRING, COMPRESSION	
138	X-3331-602-1	LEVER ASSY, FWD SW	
139	3-310-993-01	SPRING, COMPRESSION	
140	X-3310-932-1	BRACKET ASSY, MOTOR	
905	1-548-566-00	COUNTER	
M901	X-3363-087-1	MOTOR BLOCK ASSY	

(4)



No.	Part No.	Description	Remarks
151	X-3331-612-1	CHASSIS ASSY, SUB	
152	3-578-154-00	LEVER, DETECTION	
153	3-578-124-00	SPRING, COMPRESSION	
154	3-578-244-01	GEAR, FF	
155	3-578-178-00	GEAR, SHUT-OFF	
156	3-578-214-00	SHAFT, GEAR, SHUT-OFF	
157	3-578-126-00	SPRING, TENSION	
158	3-305-509-00	LEVER (A), SHUTT-OFF	
159	3-578-157-00	LEVER (B), SHUT-OFF	
160	*3-578-149-00	SHAFT, LEVER (A), SHUT-OFF	
161	3-578-267-00	SCREW (+P1.4X1.6), PRECISION	
162	3-578-221-00	SPRING, COMPRESSION	
163	3-578-162-00	GEAR, REW	
164	7-624-101-01	RING, RETAINING E-1.2	
165	X-3331-608-1	LEVER (A) ASSY, REC	
166	3-669-411-01	SPRING, TENSION	
167	X-3578-114-0	PLATE ASSY, LOCK	
168	3-578-136-00	LEVER, SWITCH	
169	3-578-277-00	SPRING, TENSION	

No.	Part No.	Description	Remarks
170	*3-331-629-01	HOOK, SPRING	
171	3-578-183-00	LEVER, RETURN, S	
172	3-305-402-00	LEVER (B), REC	
173	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
174	7-627-850-48	+P 1.4X1.6	
175	X-3331-602-1	LEVER ASSY, FWD SW	
176	3-570-589-00	SPRING, TENSION	
177	7-624-102-04	STOP RING 1.5, TYPE -E	
178	*X-3331-610-1	PLATE ASSY, SIDE	
179	3-305-444-00	GUIDE, REC BUTTON	
180	3-305-432-00	SPRING, COMPRESSION	
181	X-3305-409-0	GUIDE ASSY, REC BUTTON	
182	3-578-151-00	SHAFT, GEAR, FWD	
183	3-331-641-01	GEAR, S	
184	3-701-436-01	WASHER, 1.6	
185	3-703-816-02	SCREW (M1.4X2.0), SPECIAL HEAD	
S901	1-553-682-00	SWITCH, LEAF	
S902	1-553-226-00	SWITCH, LEAF	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	1-617-799-11	PC BOARD, ERASE HEAD			
902	1-617-800-11	PC BOARD, RECORD/PLAYBACK HEAD			
903	A-3060-030-A	MOUNTED PCB, MAIN			
904	A-3089-151-A	PC BOARD ASSY, REC			
905	1-548-566-00	COUNTER			
C101	1-124-499-11	ELECT	1MF	20%	50V
C102	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C103	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C104	1-135-083-00	TANTAL. CHIP	0.47MF	20%	25V
C105	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C106	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C107	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C108	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C109	1-163-137-00	CERAMIC CHIP	680PF	10%	50V
C110	1-163-055-00	CERAMIC CHIP	0.0047MF	10%	50V
C111	1-135-104-00	TANTAL. CHIP	10MF	10%	4V
C112	1-135-103-00	TANTAL. CHIP	3.3MF	20%	4V
C113	1-163-810-00	CERAMIC CHIP	0.03MF	10%	25V
C114	1-163-023-00	CERAMIC CHIP	0.015MF	5%	50V
C115	1-163-177-00	CERAMIC CHIP	68PF	5%	50V
C116	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C117	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C118	1-135-083-00	TANTAL. CHIP	0.47MF	10%	25V
C119	1-135-073-00	TANTAL. CHIP	0.33MF	10%	35V
C120	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C121	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C122	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C123	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C124	1-123-827-00	ELECT	220MF	20%	4V
C125	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C126	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C127	1-107-042-00	MICA	2.2PF	0.5PF	500V
C128	1-107-323-00	MICA	15P/18P/22P/27P		
C129	1-107-208-00	MICA	18PF	5%	500V
C130	1-163-988-11	CERAMIC CHIP	180PF	5%	100V
C131	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C132	1-135-070-00	TANTAL. CHIP	0.1MF	20%	35V
C133	1-163-137-00	CERAMIC CHIP	680PF	10%	50V
C134	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C135	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C136	1-135-099-00	TANTAL. CHIP	2.2MF	20%	6.3V
C137	1-163-129-00	CERAMIC CHIP	560PF	10%	50V
C138	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C139	1-163-023-00	CERAMIC CHIP	0.015MF	5%	50V
C140	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C141	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C142	1-163-137-00	CERAMIC CHIP	680PF	10%	50V
C143	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C144	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C201	1-124-499-11	ELECT	1MF	20%	50V
C202	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C203	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C204	1-135-083-00	TANTAL. CHIP	0.47MF	20%	25V
C205	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C206	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C207	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C208	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C209	1-163-137-00	CERAMIC CHIP	680PF	10%	50V
C210	1-163-055-00	CERAMIC CHIP	0.0047MF	10%	50V
C211	1-135-104-00	TANTAL. CHIP	10MF	10%	4V
C212	1-135-103-00	TANTAL. CHIP	3.3MF	20%	4V
C213	1-163-810-00	CERAMIC CHIP	0.03MF	10%	25V
C214	1-163-023-00	CERAMIC CHIP	0.015MF	5%	50V
C215	1-163-177-00	CERAMIC CHIP	68PF	5%	50V
C216	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C217	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C218	1-135-083-00	TANTAL. CHIP	0.47MF	10%	25V
C219	1-135-073-00	TANTAL. CHIP	0.33MF	10%	35V
C220	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C221	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C222	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C223	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C224	1-123-827-00	ELECT	220MF	20%	4V
C225	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C226	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C227	1-107-042-00	MICA	2.2PF	0.5PF	500V
C228	1-107-323-00	MICA	15P/18P/22P/27P		
C229	1-107-208-00	MICA	18PF	5%	500V
C230	1-163-988-11	CERAMIC CHIP	180PF	5%	100V
C231	1-135-091-00	TANTAL. CHIP	1MF	20%	16V
C232	1-135-070-00	TANTAL. CHIP	0.1MF	20%	35V
C233	1-163-137-00	CERAMIC CHIP	680PF	10%	50V
C234	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C235	1-135-096-21	TANTAL. CHIP	4.7MF	20%	10V
C236	1-135-099-00	TANTAL. CHIP	2.2MF	20%	6.3V
C237	1-163-129-00	CERAMIC CHIP	560PF	10%	50V
C238	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C239	1-163-023-00	CERAMIC CHIP	0.015MF	5%	50V
C240	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C241	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C242	1-163-137-00	CERAMIC CHIP 680PF	10%	50V
C243	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C244	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C245	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C301	1-123-306-00	ELECT 47MF	20%	10V
C302	1-124-433-00	ELECT 100MF	20%	4V
C303	1-123-618-00	ELECT 22MF	20%	6.3V
C304	1-124-233-00	ELECT 10MF	20%	16V
C305	1-124-233-00	ELECT 10MF	20%	16V
C306	1-124-220-00	ELECT 33MF	20%	4V
C307	1-123-827-00	ELECT 220MF	20%	4V
C308	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C309	1-124-222-00	ELECT 22MF	20%	6.3V
C310	1-124-220-00	ELECT 33MF	20%	4V
C311	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C312	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V
C313	1-135-091-00	TANTAL. CHIP 1MF	20%	16V
C314	1-124-229-00	ELECT 33MF	20%	6.3V
C315	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C316	1-135-091-00	TANTAL. CHIP 1MF	20%	16V
C317	1-123-827-00	ELECT 220MF	20%	4V
C318	1-123-307-00	ELECT 100MF	20%	10V
C319	1-130-896-00	FILM 0.0082MF	5%	400V
C320	1-131-361-00	TANTALUM 2.2MF	20%	16V
C321	1-130-479-00	MYLAR 0.0047MF	5%	50V
C322	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C323	1-124-229-00	ELECT 33MF	20%	6.3V
C324	1-124-225-00	ELECT 100MF	20%	6.3V
C325	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V
C326	1-135-101-21	TANTAL. CHIP 22MF	20%	4V
C327	1-135-096-21	TANTAL. CHIP 4.7MF	20%	10V
C328	1-124-430-00	ELECT 22MF	20%	4V
C329	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C330	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C331	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C332	1-163-137-00	CERAMIC CHIP 680PF	10%	50V
C601	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C602	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V
C603	1-135-070-00	TANTAL. CHIP 0.1MF	20%	35V
C604	1-163-012-00	CERAMIC CHIP 0.0018MF	10%	50V
C605	1-130-483-00	MYLAR 0.01MF	5%	50V
C606	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C607	1-130-489-00	MYLAR 0.033MF	5%	50V
C608	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C609	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C610	1-163-075-00	CERAMIC CHIP 0.047MF	10%	25V
C611	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C612	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C613	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V
CN301	1-507-723-00	JACK, EXTENTION POWER		
CP101	1-235-317-11	FILTER, LOW PASS		
CP201	1-235-317-11	FILTER, LOW PASS		
CP301	1-464-576-11	CONVERTER UNIT, DC-DC		
HE901	8-825-724-70	ERASE HEAD EP201-36G		
HRP901	1-543-296-11	HEAD		

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
D301	8-719-100-05	DIODE 1S2837-T1			
D302	8-719-105-91	DIODE RD5.6M-T2B2			
D303	8-719-912-24	DIODE GL-1PR1			
D304	8-719-912-24	DIODE GL-1PR1			
D305	8-719-912-24	DIODE GL-1PR1			
D306	8-719-912-24	DIODE GL-1PR1			
D307	8-719-912-24	DIODE GL-1PR1			
D308	8-719-912-24	DIODE GL-1PR1			
D309	8-719-100-05	DIODE 1S2837			
IC301	8-759-910-18	IC BA3304F			
IC302	8-752-030-38	IC CXA1058M			
IC303	8-759-200-95	IC TA7688F			
IC304	8-759-700-43	IC NJM4558M			
IC305	8-759-700-43	IC NJM4558M			
IC306	8-759-909-40	IC CX10043			
IC601	8-759-909-45	IC CX20084			
J301	1-507-917-21	JACK, STEREO (MIC/LINE IN)			
J303	1-507-917-00	JACK, STEREO (PHONES)			
JR301	1-216-295-00	METAL CHIP	0	5%	1/10W
JR302	1-216-295-00	METAL CHIP	0	5%	1/10W
JR303	1-216-295-00	METAL CHIP	0	5%	1/10W
JR304	1-216-296-00	METAL CHIP	0	5%	1/8W
JR305	1-216-295-00	METAL CHIP	0	5%	1/10W
JR308	1-216-296-00	METAL CHIP	0	5%	1/8W
JR309	1-216-295-00	METAL CHIP	0	5%	1/10W
JR310	1-216-296-00	METAL CHIP	0	5%	1/8W
JR311	1-216-296-00	METAL CHIP	0	5%	1/8W
JR312	1-216-295-00	METAL CHIP	0	5%	1/10W
L101	1-408-682-00	MICRO INDUCTOR 10MMH			
L102	1-408-930-00	MICRO INDUCTOR 33MMH			
L201	1-408-682-00	MICRO INDUCTOR 10MMH			
L202	1-408-930-00	MICRO INDUCTOR 33MMH			
M901	X-3331-616-1	MOTOR			
Q101	8-729-100-66	TRANSISTOR 2SC1623			
Q102	8-729-100-66	TRANSISTOR 2SC1623			
Q103	8-729-900-98	TRANSISTOR DTC143TK			
Q104	8-729-900-98	TRANSISTOR DTC143TK			
Q105	8-729-900-98	TRANSISTOR DTC143TK			
Q106	8-729-900-98	TRANSISTOR DTC143TK			
Q107	8-729-900-98	TRANSISTOR DTC143TK			
Q108	8-729-900-98	TRANSISTOR DTC143TK			
Q201	8-729-100-66	TRANSISTOR 2SC1623			
Q202	8-729-100-66	TRANSISTOR 2SC1623			
Q203	8-729-900-98	TRANSISTOR DTC143TK			
Q204	8-729-900-98	TRANSISTOR DTC143TK			
Q205	8-729-900-98	TRANSISTOR DTC143TK			
Q206	8-729-900-98	TRANSISTOR DTC143TK			
Q207	8-729-900-98	TRANSISTOR DTC143TK			
Q208	8-729-900-98	TRANSISTOR DTC143TK			
Q301	8-729-100-66	TRANSISTOR 2SC1623			
Q302	8-729-100-76	TRANSISTOR 2SA812			
Q303	8-729-901-46	TRANSISTOR DTA114YK			
Q304	8-729-100-66	TRANSISTOR 2SC1623			
Q305	8-729-100-76	TRANSISTOR 2SA812			
Q306	8-729-100-66	TRANSISTOR 2SC1623			
Q307	8-729-100-66	TRANSISTOR 2SC1623			
Q308	8-729-900-52	TRANSISTOR DTC114YK			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q309	8-729-900-98	TRANSISTOR DTC143TK			
Q310	8-729-900-98	TRANSISTOR DTC143TK			
Q311	8-729-199-92	TRANSISTOR 2SD999			
Q312	8-729-159-64	TRANSISTOR 2SD596			
Q313	8-729-100-66	TRANSISTOR 2SC1623			
Q314	8-729-100-66	TRANSISTOR 2SC1623			
Q315	8-729-100-76	TRANSISTOR 2SA812			
Q316	8-729-900-98	TRANSISTOR DTC143TK			
Q317	8-729-900-98	TRANSISTOR DTC143TK			
Q318	8-729-900-98	TRANSISTOR DTC143TK			
Q319	8-729-100-76	TRANSISTOR 2SA812			
Q320	8-729-100-66	TRANSISTOR 2SC1623			
Q321	8-729-100-66	TRANSISTOR 2SC1623			
Q322	8-729-100-66	TRANSISTOR 2SC1623			
Q323	8-729-901-46	TRANSISTOR DTA114YK			
Q601	8-729-101-07	TRANSISTOR 2SB798			
Q602	8-729-100-66	TRANSISTOR 2SC1623			
Q603	8-729-100-66	TRANSISTOR 2SC1623			
Q604	8-729-100-76	TRANSISTOR 2SA812			
R101	1-216-093-00	METAL CHIP	68K	5%	1/10W
R103	1-216-113-00	METAL CHIP	470K	5%	1/10W
R104	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R105	1-216-023-00	METAL CHIP	82	5%	1/10W
R107	1-216-111-00	METAL CHIP	390K	5%	1/10W
R108	1-216-101-00	METAL CHIP	150K	5%	1/10W
R109	1-216-029-00	METAL CHIP	150	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-083-00	METAL CHIP	27K	5%	1/10W
R112	1-216-115-00	METAL CHIP	560K	5%	1/10W
R113	1-216-084-00	METAL CHIP	30K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R116	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R117	1-216-097-00	METAL CHIP	100K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R119	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R120	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-046-00	METAL CHIP	750	5%	1/10W
R125	1-216-097-00	METAL CHIP	100K	5%	1/10W
R126	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R127	1-216-140-00	METAL CHIP	3.9	5%	1/8W
R128	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R129	1-216-037-00	METAL CHIP	330	5%	1/10W
R130	1-216-089-00	METAL CHIP	47K	5%	1/10W
R131	1-216-095-00	METAL CHIP	82K	5%	1/10W
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W
R133	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R134	1-216-089-00	METAL CHIP	47K	5%	1/10W
R135	1-216-206-00	METAL CHIP	2.2K	5%	1/8W
R136	1-216-091-00	METAL CHIP	56K	5%	1/10W
R137	1-216-089-00	METAL CHIP	47K	5%	1/10W
R138	1-216-105-00	METAL CHIP	220K	5%	1/10W
R139	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R140	1-216-097-00	METAL CHIP	100K	5%	1/10W
R141	1-216-063-00	METAL CHIP	3.9K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R142	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-033-00	METAL CHIP	220	5%	1/10W
R144	1-216-079-00	METAL CHIP	18K	5%	1/10W
R145	1-216-077-00	METAL CHIP	15K	5%	1/10W
R146	1-216-232-00	METAL CHIP	27K	5%	1/8W
R147	1-216-073-00	METAL CHIP	10K	5%	1/10W
R148	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R201	1-216-093-00	METAL CHIP	68K	5%	1/10W
R203	1-216-113-00	METAL CHIP	470K	5%	1/10W
R204	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R205	1-216-023-00	METAL CHIP	82	5%	1/10W
R207	1-216-111-00	METAL CHIP	390K	5%	1/10W
R208	1-216-101-00	METAL CHIP	150K	5%	1/10W
R209	1-216-029-00	METAL CHIP	150	5%	1/10W
R210	1-216-049-00	METAL CHIP	1K	5%	1/10W
R211	1-216-083-00	METAL CHIP	27K	5%	1/10W
R212	1-216-115-00	METAL CHIP	560K	5%	1/10W
R213	1-216-084-00	METAL CHIP	30K	5%	1/10W
R214	1-216-101-00	METAL CHIP	150K	5%	1/10W
R215	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R216	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R217	1-216-097-00	METAL CHIP	100K	5%	1/10W
R218	1-216-073-00	METAL CHIP	10K	5%	1/10W
R219	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R220	1-216-077-00	METAL CHIP	15K	5%	1/10W
R221	1-216-077-00	METAL CHIP	15K	5%	1/10W
R222	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W
R224	1-216-046-00	METAL CHIP	750	5%	1/10W
R225	1-216-097-00	METAL CHIP	100K	5%	1/10W
R226	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R227	1-216-140-00	METAL CHIP	3.9	5%	1/8W
R228	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R229	1-216-037-00	METAL CHIP	330	5%	1/10W
R230	1-216-089-00	METAL CHIP	47K	5%	1/10W
R231	1-216-095-00	METAL CHIP	82K	5%	1/10W
R232	1-216-073-00	METAL CHIP	10K	5%	1/10W
R233	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R234	1-216-089-00	METAL CHIP	47K	5%	1/10W
R235	1-216-206-00	METAL CHIP	2.2K	5%	1/8W
R236	1-216-091-00	METAL CHIP	56K	5%	1/10W
R237	1-216-089-00	METAL CHIP	47K	5%	1/10W
R238	1-216-105-00	METAL CHIP	220K	5%	1/10W
R239	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R240	1-216-097-00	METAL CHIP	100K	5%	1/10W
R241	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R242	1-216-033-00	METAL CHIP	220	5%	1/10W
R243	1-216-033-00	METAL CHIP	220	5%	1/10W
R244	1-216-079-00	METAL CHIP	18K	5%	1/10W
R245	1-216-077-00	METAL CHIP	15K	5%	1/10W
R246	1-216-232-00	METAL CHIP	27K	5%	1/8W
R247	1-216-073-00	METAL CHIP	10K	5%	1/10W
R248	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R301	1-216-049-00	METAL CHIP	1K	5%	1/10W
R302	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R303	1-216-073-00	METAL CHIP	10K	5%	1/10W
R304	1-216-049-00	METAL CHIP	1K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R305	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-216-093-00	METAL CHIP	68K	5%	1/10W
R307	1-216-224-00	METAL CHIP	12K	5%	1/8W
R308	1-216-077-00	METAL CHIP	15K	5%	1/10W
R309	1-216-075-00	METAL CHIP	12K	5%	1/10W
R310	1-216-073-00	METAL CHIP	10K	5%	1/10W
R311	1-216-097-00	METAL CHIP	100K	5%	1/10W
R312	1-216-089-00	METAL CHIP	47K	5%	1/10W
R313	1-216-097-00	METAL CHIP	100K	5%	1/10W
R314	1-216-097-00	METAL CHIP	100K	5%	1/10W
R315	1-216-109-00	METAL CHIP	330K	5%	1/10W
R316	1-216-113-00	METAL CHIP	470K	5%	1/10W
R317	1-216-089-00	METAL CHIP	47K	5%	1/10W
R318	1-216-039-00	METAL CHIP	390	5%	1/10W
R319	1-216-013-00	METAL CHIP	33	5%	1/10W
R320	1-216-089-00	METAL CHIP	47K	5%	1/10W
R321	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R322	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R323	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R324	1-216-105-00	METAL CHIP	220K	5%	1/10W
R325	1-216-077-00	METAL CHIP	15K	5%	1/10W
R326	1-216-075-00	METAL CHIP	12K	5%	1/10W
R327	1-216-097-00	METAL CHIP	100K	5%	1/10W
R328	1-216-089-00	METAL CHIP	47K	5%	1/10W
R329	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R330	1-216-097-00	METAL CHIP	100K	5%	1/10W
R331	1-216-031-00	METAL CHIP	180	5%	1/10W
R332	1-216-031-00	METAL CHIP	180	5%	1/10W
R333	1-216-031-00	METAL CHIP	180	5%	1/10W
R334	1-216-031-00	METAL CHIP	180	5%	1/10W
R335	1-216-031-00	METAL CHIP	180	5%	1/10W
R336	1-216-101-00	METAL CHIP	150K	5%	1/10W
R337	1-216-073-00	METAL CHIP	10K	5%	1/10W
R338	1-216-001-00	METAL CHIP	10	5%	1/10W
R339	1-216-089-00	METAL CHIP	47K	5%	1/10W
R340	1-216-049-00	METAL CHIP	1K	5%	1/10W
R343	1-216-049-00	METAL CHIP	1K	5%	1/10W
R344	1-216-097-00	METAL CHIP	100K	5%	1/10W
R601	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R602	1-216-093-00	METAL CHIP	68K	5%	1/10W
R603	1-216-093-00	METAL CHIP	68K	5%	1/10W
R604	1-216-095-00	METAL CHIP	82K	5%	1/10W
R605	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R606	1-216-097-00	METAL CHIP	100K	5%	1/10W
R607	1-216-105-00	METAL CHIP	220K	5%	1/10W
R608	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R609	1-216-073-00	METAL CHIP	10K	5%	1/10W
R610	1-216-089-00	METAL CHIP	47K	5%	1/10W
R611	1-216-037-00	METAL CHIP	330	5%	1/10W
R612	1-216-081-00	METAL CHIP	22K	5%	1/10W
R613	1-216-049-00	METAL CHIP	1K	5%	1/10W
RV101	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K			
RV102	1-237-119-11	RES, ADJ, METAL GLAZE 22K			
RV201	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K			
RV202	1-237-119-11	RES, ADJ, METAL GLAZE 22K			
RV301	1-237-102-11	RES, VAR, CARBON 10K/10K			
RV302	1-230-165-00	RES, VAR, CARBON 10K/10K			
RV601	1-230-901-11	RES, ADJ, METAL GLAZE 20K			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S301	1-554-575-00	SWITCH, SLIDE
S302	1-553-942-00	SWITCH, SLIDE
S303	1-553-510-00	SWITCH, SLIDE
S304	1-553-510-00	SWITCH, SLIDE
S305	1-570-113-11	SWITCH, SLIDE
S601	1-554-912-11	SWITCH, SLIDE
S901	1-553-682-00	SWITCH, LEAF
S902	1-553-226-00	SWITCH, LEAF
T301	1-433-244-00	TRANSFORMER, BIAS OSCILLATOR

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-555-658-21	CORD, CONNECTION (RK-129)
1-557-132-00	(US, Canadian, AEP, FRANCE, UK) .....CORD, CONNECTION (PC-62)
3-331-670-01	(US).....INDIVIDUAL CARTON
3-331-671-01	(Canadian).....INDIVIDUAL CARTON
3-331-672-01	(AEP,UK,FRANCE)..INDIVIDUAL CARTON
3-331-669-01	(ET).....INDIVIDUAL CARTON
3-331-674-01	CUSHION
3-331-683-01	CASE, CARRYING
3-331-686-01	BELT, CARRYING
3-331-689-01	(US, Canadian, AEP, FRANCE, UK)..SPACER, HEADPHONE
3-331-694-01	(US, Canadian, AEP, FRANCE, UK)..SHEET, PROTECTION
3-527-213-00	LABEL, SERIAL NUMBER
3-570-631-51	BAG, POLYETHYLENE
3-570-631-61	BAG, POLYETHYLENE
*3-701-999-00	LABEL, SERIAL NUMBER
3-331-667-01	(ET) .....SPACER
3-760-922-11	(AEP,UK).....MANUAL, INSTRUCTION
3-760-922-21	(US,Canadian)...MANUAL, INSTRUCTION
3-760-922-41	(FRANCE).....MANUAL, INSTRUCTION
3-795-748-21	(US)...SAFETY INSTRUCTIONS, HEADPHONE
8-810-077-90	(US, Canadian, AEP, FRANCE, UK)..MICROPHONE MCX-284
8-952-232-90	(US, Canadian, AEP, FRANCE, UK)..HEADPHONE MDR-W20L/B SET

9-952-138-12
(Including 9-952-138-91, -92, -93)

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